

THE NAVAL SAFETY CENTER'S AVIATION MAGAZINE

approach

July 2000



Flare Dump!

**WHERE'D THAT FRIGATE
COME FROM?**

Lost in a Hornet? Impossible

approach

The Naval Safety Center's Aviation Magazine

July 2000 Volume 45 No. 7

On the Cover A flight deck crewman directs an FA/18C from VMFA-312 onto a catapult aboard USS *Theodore Roosevelt* (CVN 71) during Operation Deny Flight. Photo by PH3 Darin Osmun.

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Derek Nelson is editing this magazine for the next couple months. Please mail manuscripts to him at the above address, or e-mail him at dnelson@safetycenter.navy.mil.



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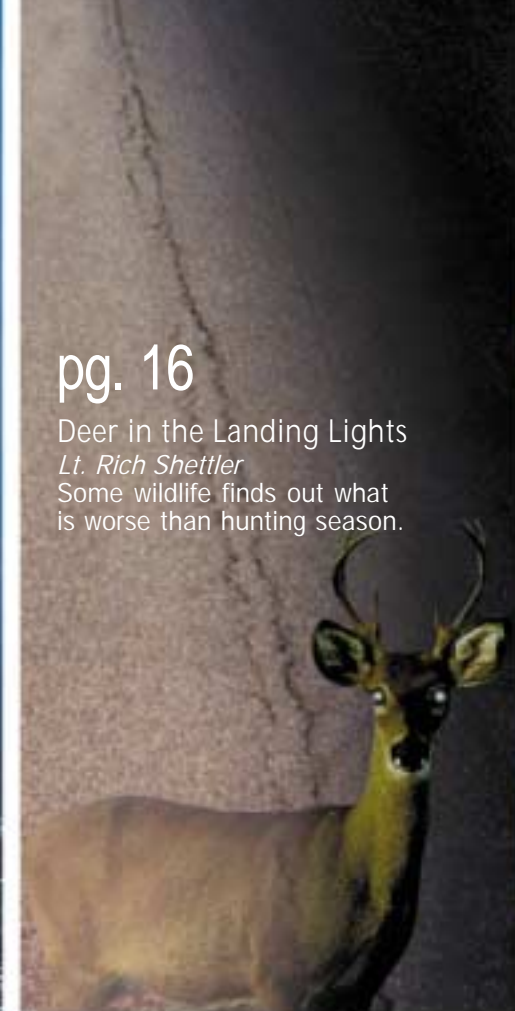
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FLARE DUMP!

Anonymous

We arrived on station during Operation Allied Force. This was our first mission, and we had drawn the graveyard shift. Part of our on-station checklist was to arm the ALR 47-ALE 39 system, the threat receiver and chaff-and-flare dispensers, generally thought to be a good idea because our slow P-3 was as maneuverable as a Mack truck.

Before this deployment, we had conducted informal training on the arming and employment of the ALE 39-ALR 47 system. Although most of the pilots had not operated this system, several had a good working knowledge of the system. We listened intently to their instructions and were satisfied that we had acquired all the knowledge required to operate these systems. Armed with this information, we set off for war.

As we arrived on station, we initiated the arming sequence of the ALE 39-ALR 47 system, using the checklist. A senior O-4 pilot with more than 3,500 hours in P-3s occupied the pilot seat. His copilot was a senior lieutenant with more than 2,000 hours in P-3s. The flight engineer was a chief, who had previously served as a fleet instructor flight engineer. We were all comfortable with each other's capabilities.

As we began the checklist, the copilot flew the aircraft while the pilot read off the items. We usually did the checklist in this fashion since the system controls were on the pilot's side console. After moving the switches to the correct positions, using a flashlight and verifying the position, the pilot placed the safe/arm switch to arm. This turned out to be an "enlightening" experience as night turned into day.

Realizing we were deploying all our flares, the pilot turned the safe/arm switch to "safe." After

answering some embarrassing questions from various playmates in the area, we investigated what happened. Feeling confident that there must be a fault with the system, because we assumed we had done all our procedures according to the checklist, we left the system off for the remainder of the flight.

Upon our glorious arrival home and pinning the remaining chaff and flares, we oversaw the quality-assurance trouble shooting process. To my amazement, the ordnance QSO declared that the system was working 4.0. We then looked up the MIMs, read them thoroughly and found the embarrassing causal factor in black and white. The MIMs say that if the off-on-salvo toggle switch is inadvertently positioned to "salvo" then back to "on," the system must be turned "off" before placing the safe-arm switch to "arm," or the ALR 39 will begin the salvo cycle.

After reading this instruction, the pilot replied he had no idea of this requirement and said that when he placed the off-on-salvo switch to "on," he accidentally went to "salvo" then retarded the switch to "on." He believed at the time that this action would have no effect on the system, as it had not yet been armed. At the time, I was under the same impression.

Hearsay, word of mouth, and hangar flying are not the best way to train. That type of training is a great supplement following a thorough review of the publications that give detailed information.

As a result of this incident, the flight crew conducted formal training for the squadron. Meanwhile, we had to endure well-deserved, yet embarrassing statements, such as "I knew that." If they didn't, they do now thanks to us, the "Salvo Crew." 🦅

by LCdr. Jeffrey Barta

It wasn't your typical dark night around the boat. In fact, it was clear with a full moon and an O-4's horizon—the kind of night when you can look up and see all the way to eternity. The kind of night when you'd never have to worry about flying the helo into the water.

We were into our second month of cruise, doing the usual LAMPS stuff of VIDing every contact within range of mother while looking for drug smugglers in the western Pacific. I was new to LAMPS MK III, having previously flown the SH-2F. As a senior lieutenant, I was flying with one of the more junior HACs on the det, along with a brand-new but otherwise outstanding AW.

We had been flying for about three hours and were checking our final contact of the night before heading back home to hot seat and hit the auto-dog. The VID went well, especially with such great visibility. Our coupled approach and hover went flawlessly. We got the required alpha-report info and automatically departed. Showing four good rates of climb, safe single-engine airspeed and the stabilator programming, I buried my head in the multi-purpose display (MPD) to set up a fly-to point back home. All seemed well.

Without saying anything, the HAC disengaged the automatic departure going through 200 feet and applied a good amount of forward cyclic to increase airspeed quicker. As I worked on the MPD, something didn't seem right, so I looked up and saw the radar altimeter descending rapidly through 75 feet. I yelled "Power!" and yanked up on the collective as we heard the Low RAWS tone ringing in our ears at 35 feet. We bottomed out at around 15 feet and looked at each other as we climbed.

"Boy, that was a close one" was all the HAC could say. Like me, the AW in back had been busy running his radar, and hadn't noticed our descent. SH-60B NATOPS warns us about applying forward cyclic too rapidly when accelerating, because the AFCS altitude-hold functions can disengage and stay off. The HAC had done just that and traded altitude for airspeed without even noticing it.

But it wasn't just the HAC's fault; it was mine and the AW's as well. In our rush to set things up and get home, we had forgotten the basic crew-coordina-

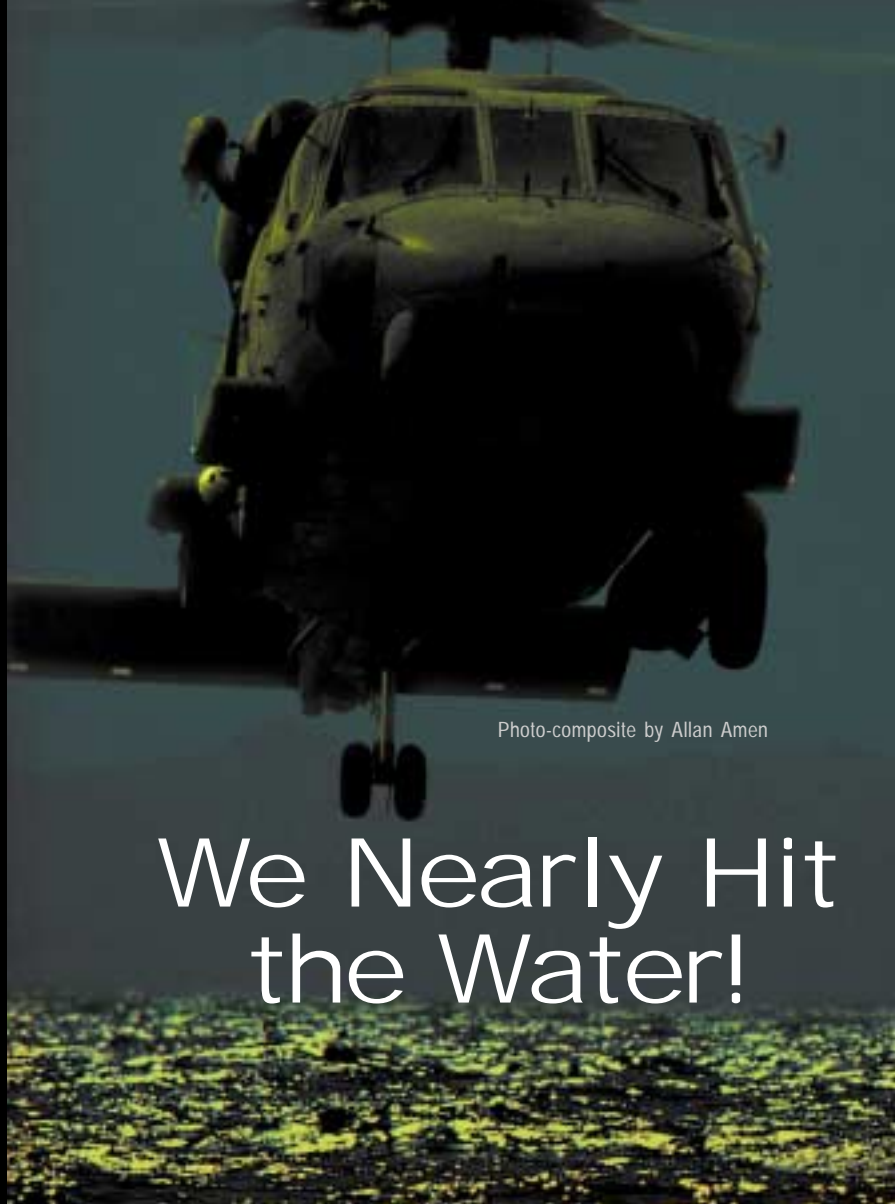


Photo-composite by Allan Amen

We Nearly Hit the Water!

tion skill of situational awareness. We all thought we were climbing and, had failed to back each other up on the gauges.

As a result of near mishaps and some real mishaps from such lapses, SH-60B NATOPS now contains a brief item for "Night/IMC Descent Over Water." Although written for a descent, the principles apply for climbs as well. In addition, the LAMPS core-SOP prohibits night VIDs in a hover below 200 feet unless absolutely necessary, with the automatic-approach checklist having to be completed above 500 feet before the descent begins. We pulled it out and learned some valuable lessons. Perception isn't always reality, and there's no such thing as "Just another night around the boat." 🦅

LCdr. Barta was in HSL-47 at the time of this incident. He is now an OinC with HSL-51.



The New Piper Aircraft, Inc.

by Lt. Gil Miller

Pay the fee, get your ATP. Sounded good to me! There I was, nine years and 2,400 hours into a terrific Navy flying career. Having a blast and feeling salty, too. After all, I'd been fortunate to bounce from two different fleet helicopters into the C-12 program. Just love that light multi-engine stuff. I figured I might as well expand my professional education and pick up another FAA qual.

I signed up for two practice flights and an ATP (Airline Transport Pilot) check ride in a Piper Seminole, a light twin. I arrived bright and early at the flight instructor's office, filled out the paperwork, and drove to the airfield. I could hardly wait to show off my flying skills, particularly when my instructor for the practice flights remarked that he was pretty experienced, him-

self. After all, he already had more than 500 flight hours, and nearly 100 of those were in the very Seminole we were preflighting.

An hour later, we were 15 miles northwest of the city at 4,500 feet. The weather was CAVU, and we had a passenger in the back, who was returning to flying after an eight-year hiatus because the airlines were hiring. He was trying to soak up some atmosphere before returning to the controls.

We had just finished the stall series and were now embarking upon basic instrument work. I was starting to grow accustomed to the "foggles," glasses that removed about 70 percent of your vision to enforce your instrument focus. Approach provided VFR flight-following and gave us a courtesy call.

“Seminole November Four Seven Six Three Six, you have traffic, one o’clock, ten miles. A Seminole at forty-five hundred feet, heading northwest.”

I looked up briefly and asked, “You got ‘em?”

My instructor looked up for a second and answered, “Nope,” before returning to his logbook.

We finished the 30-degree turns and rolled out on an easterly heading. Approach called again.

“Seminole November Four Seven Six Three Six, your traffic is now one o’clock and seven miles. Do you have the traffic?”

I looked up again, squinting through the little opening at the bottom of the foggles as my instructor calmly replied, “Nope, don’t have him.”

Approach called the other aircraft. “Seminole November Eight Eight Nine One Two, traffic is eleven o’clock and six miles. Report traffic in sight.”

A voice from the other aircraft responded, “Approach, Seminole November Eight Eight Nine One Two. Negative contact. We’re looking.”

With this, my instructor remarked, “Hey, that’s the ATP checker.”

“What’s that?” I replied.

“In the other aircraft, that’s Mr. Toughguy, the ATP checker.”

“Oh, OK. Do you have him in sight?” I looked over at my young instructor, who glanced out the window with the same intensity as if he was daydreaming. He still believed in that “big sky, little airplane” concept.

“No, sure don’t.” I was getting a little concerned.

“Well, let’s do the first forty-five-degree turn to the left to get away from him,” I said. “You still don’t have him?”

“Nope.”

Approach called again. There was renewed urgency in the controller’s voice as he asked us to advise when we had the traffic in sight. We were now 4 miles, but I was wrapped up in my instrument scan for the 45-degree turns. The passenger had the instructor occupied with questions about FARs. I heard another negative reply from the other aircraft but saw that my instructor was still concentrating on his logbook. Must have been tallying all 500 of his hours that particular morning.

The fourth time approach called us, the controller took charge of our cavalier attitude toward midairs and said, “November Four Seven Six Three Six, suggest you climb or dive—now!” He screamed the last word. His transmission is probably arriving at Neptune or Pluto right about now.

I looked up at our one o’clock and saw the other Seminole. Pushing the nose over as hard as I could, I felt the shoulder straps dig into my shoulders and my feet leave the pedals. The other aircraft passed directly overhead. They never saw us.

When we leveled at 3,500, I looked over at my instructor. His face was ashen, and he didn’t say a word for several minutes. Finally, I asked, “How about those approaches?” We landed an hour later.

The Seminole is not a complex aircraft, and I was beginning to feel comfortable in it. The most important lesson that morning was clearly beyond a mere aircraft fam. I’ve heard it since flight school, and I’ve said it myself as a NATOPS IP and aircraft commander: Don’t trust the other guy. Even your most competent, best buddy can get you killed. 🛩️

Lt. Miller flies with VR-54.

I looked up again,
squinting through the
little opening at the
bottom of the foggles
as my instructor calmly
replied, “Nope, don’t
have him.”

Almost From the Past

by Lt. Werner Rauchenstein

I was about to fly my last NATOPS check, and I was ready to go. I had more than 1,000 hours in the SH-60B and plenty of sea time. I was always a little nervous on these check rides, but who isn't? I'd flown with this guy once on my HAC check a year ago almost to the day, and I'd deployed with him as his detachment maintenance officer. I knew the aircraft, the area, and most importantly, I knew him...or so I thought.

My HAC check had gone well. We had covered everything either of us could think of, including a few that I hadn't anticipated, and I hadn't made any major mistakes.

One emergency the check pilot threw at me was scary. We were doing practice auto-rotations to the pad. I wasn't doing very well, but they were passable. After getting established into the last one, he pulled the No. 2 engine back on me, putting us into a single engine profile. I waved off, thinking,



PH3 Bolden

“What the hell are you doing?” Trying to recover an auto with only one engine would be foolish, right? The flight finished off without further incident, and I discussed it with him afterwards.

After explaining that I was uncomfortable with that procedure, he replied, “I was watching you. I would’ve backed you up.” He then asked me how I recognized the failure, and I told him I saw him do it in my peripheral vision. He said, “I guess I should have been more stealthy.” His comment left me thinking he wanted me to complete the practice auto, probably for the “learning experience” more than for evaluation.

Now, less comfortable than I’d been before talking to him, I went to my current det OinC and explained the situation to him. He referred me to the safety officer, who told me that it didn’t sound like a good idea, but he didn’t know of any prohibitions on the procedure. In fact, he said, it was common practice in other LAMPS squadrons.

It was hard to digest this information, but I trusted the senior members of my command, and tried to be open to the idea that a practice single-engine auto was not a big deal. After all, I’d seen single-engine cut from 100 feet and in greased-on landings. Why not one from 50 or 60 feet at the end of an auto?

All this was running through my mind as we mounted up for my NATOPS check flight, but I was ready to go. Starting up the No. 1 engine, the


plane captain gave me the fire signal, so I aborted the start and went through the procedures. In the process, I noticed that the power control lever (PCL) was sticking badly in the down position. You have to pull down the PCL (which is mounted overhead) to turn off the starter and disengage the idle detent to abort the start. The problem with the PCL sticking is that it may miss the detent when accelerating the engine to the fly position. This situation could result in locking out the ECU, removing the automatic engine-trimming functions, or (if someone pulls it back to simulate single-engine failure) becoming a real engine failure.

As the flight proceeded, everything was going well. I was a little unnerved when he pulled back the No. 1 engine passing 100 feet on an obstacle-clearance takeoff (climbing hover) because we weren’t over a runway. Our wing SOP specifies that we must have the ability to “run it on” when practicing single engine from a 100-foot hover. I recovered to level, forward flight by about 50 feet, so I let it go. I definitely did not want to focus on anything but the present, since getting behind the aircraft on a check flight is a bad idea.

A little later, while practicing hover work, he gave me another cut-gun. Although I landed successfully, this time when he pulled the PCL back, it missed the idle detent and actually shut down the engine. We were on deck and restarted, so no problem, right?

By the end of the flight, I was feeling good. I had fended off the most off-the-wall emergencies I had seen, while reciting NATOPS minutiae for two and a half hours, and hadn’t hung myself yet. All that remained were autos. For some strange reason, even though I’d been thinking about it for the entire year and most of that flight, the thought of him pulling one engine back while we were in

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A photograph of an aircraft carrier on a runway, viewed from a low angle. The carrier is dark and sleek, with its tail fin visible. The background shows a hazy sky and some distant buildings. Overlaid on the bottom left of the image is the text "Trying to recover an auto with only one engine would be foolish, right?" in a bold, yellow, sans-serif font.

Trying to recover an auto with only one engine would be foolish, right?

This Ain't *No Kid's Story*

by Lt. Joe Amaral

I had been embarked in the USS Sacramento (AOE-1) for more than two months on a WestPac deployment when the story about the emperor's new clothes vividly came to mind.

Our detachment was doing much of the air logistics runs for the carrier battle group. I was a fledgling "Gunbearer," a few months out of the FRS, yet I was well into a crash course in the nature of our mission and our life in the fleet.

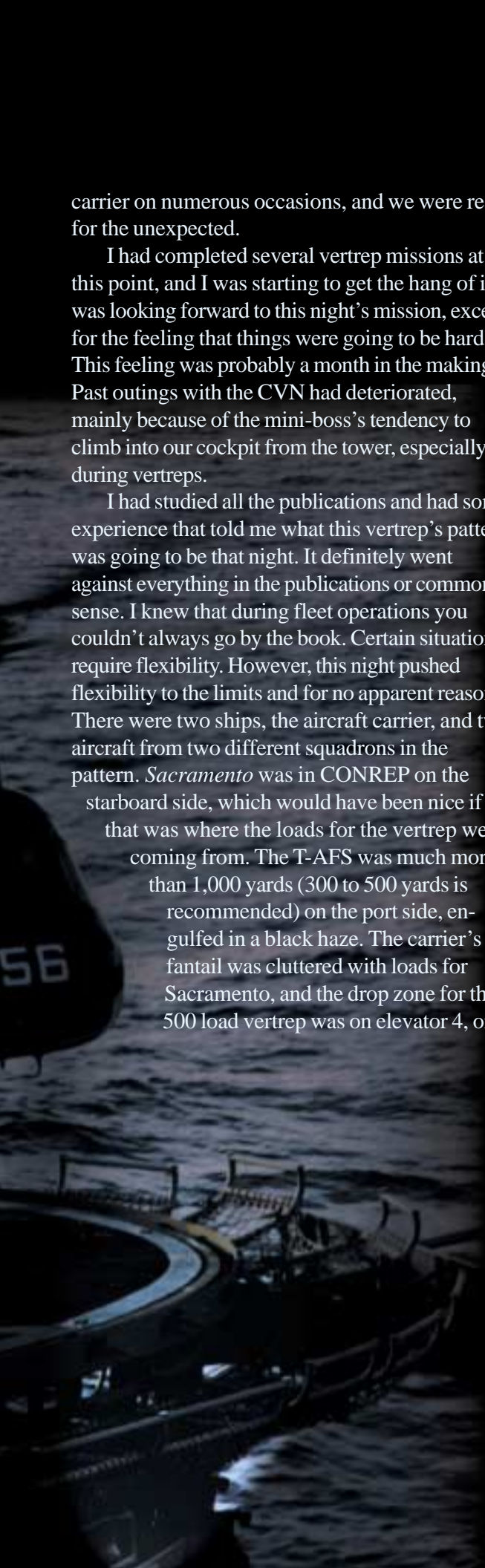
My HACs were teaching me the commitment to mission accomplishment that was our squadron's hallmark, and I was inundated with our can-do attitude for every mission, including mail and passenger transfers, medevacs, and of course, vertical replenishment. Vertrep is the HC community trademark, and I learned quickly that it was the mission of choice for an H-46D pilot. These hops are pure stick-and-rudder, seat-of-the-pants flying, which all

HC pilots look forward to doing day or night.

It was an all-too-typical night in the Persian Gulf—pitch-black, hazy and hot. There was no horizon, and our task was a long vertrep with the carrier.

We had worked with this

PH1 Troy Summers



carrier on numerous occasions, and we were ready for the unexpected.

I had completed several vertrep missions at this point, and I was starting to get the hang of it. I was looking forward to this night's mission, except for the feeling that things were going to be hard. This feeling was probably a month in the making. Past outings with the CVN had deteriorated, mainly because of the mini-boss's tendency to climb into our cockpit from the tower, especially during vertreps.

I had studied all the publications and had some experience that told me what this vertrep's pattern was going to be that night. It definitely went against everything in the publications or common sense. I knew that during fleet operations you couldn't always go by the book. Certain situations require flexibility. However, this night pushed flexibility to the limits and for no apparent reason. There were two ships, the aircraft carrier, and two aircraft from two different squadrons in the pattern. *Sacramento* was in CONREP on the starboard side, which would have been nice if that was where the loads for the vertrep were coming from. The T-AFS was much more than 1,000 yards (300 to 500 yards is recommended) on the port side, engulfed in a black haze. The carrier's fantail was cluttered with loads for *Sacramento*, and the drop zone for the 500 load vertrep was on elevator 4, on

the port side of the carrier, right behind an FA-18 (the only aircraft on the entire deck).

"Is this for real?" I asked my HAC. "The only aircraft on the entire deck is ten feet from where he wants the loads dropped."

Most ships get into position and let the aircraft commanders figure out the pattern. Not that night. The mini-boss's plan was to simultaneously transfer the 400 loads from the T-AFS, then, after each drop at the carrier, pick up a retrograde load from its fantail and drop it on *Sacramento*.

As hard as it is to explain, it was even harder to understand at the time. This pattern didn't allow us to keep the other aircraft or the LSE in sight and had us backing up 300 feet to the carrier's fantail, with little or no visual cues to pick a retro-load. This pattern allowed no ability to see what flight-deck personnel, forklifts, or cargo might be in our way, let alone determine the other aircraft's position in the pattern.

From the first approach in the pattern for a pick (hooking up the load), I knew it was going to be a long night. The HAC had started a descent one mile from the stern of the T-AFS for the first

"Sideflare, drop that load
. . . more right . . . you
have a fouled load . . .
retro to the left."

approach. Somewhere around 75 feet off the water with a 700-fpm descent rate, a half-mile from the ship, I grabbed the collective, pulled power and said, "You need to tell me about descents like that!" I suspected the HAC had some

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*Where'd That Frigate Come From?

Unbeknownst to us, while we were hovering over the British flight deck, the Dutch frigate had begun an approach up the port side at approximately 50 yards.

by LCdr. Randy Nash

We were two days from a port visit in New Orleans during Mardi Gras, halfway through our deployment with the NATO Standing Naval Forces Atlantic (SNFL). After the previous port, this underway period was a welcome break for our livers, yet everyone was looking forward to meeting with the other wardrooms at the world's largest week-long party.

SNFL was conducting a stricken-vessel exercise with the British ship simulating a main-space fire and the other vessels providing assistance. We were the Alert-30 SH-60B, standing by for any vertrep or medevac requirements. We thoroughly briefed NATOPS, covering the basics of vertrep to and from the different ships in the force. Unsure of any specific tasking, we talked extensively about how we would apply ORM. The weather couldn't have been better: clear skies, calm seas and light winds. We were stoked for what looked to be a fun hop.

Sure enough, we got the call to launch for both vertrep and medevac. Once airborne, we checked in with all the players. The Brits were DIW, with our FFG and a Dutch frigate maneuvering close aboard for RHIB ops. The ships were talking on bridge-to-bridge, but with Hawklink in one ear and helo common in the other, we decided not to monitor.

We took one load of DC gear over to the Brits and ran simulated burn victims back and forth. In between, we made low, close-aboard passes on the other ships to get a better look and take pictures.

The British were eventually "saved," finex called, and we were tasked to retrieve the DC gear we had dropped earlier. The British HCO said the load was ready, called the winds off the port beam, and gave us a green deck. We rolled on final from the starboard side and set up a hover over the deck. My H2P was in the right seat with the visual reference to the deck, hangar, and superstructure. My attention was focused right (cross cockpit), monitoring my copilot's hover, while the crewman was in the right side door, conning us over the load. Everything was working great.

"Hook-up man coming under," we called.

"Load's hooked up. Hook-up man clear," the crewman soon reported.

"Easy up, easy up, weight's coming on."

"Load's off the deck, easy up."

I called, "OK, gauges looking good, we're clear arou...what the..! Steady! Hold your position!"

Unbeknownst to us, while we were hovering over the British flight deck, the Dutch frigate had begun an approach up the port side at approximately 50 yards. When we shifted our attention forward, all we saw was gray-metal superstructure. If we transitioned, we'd deliver our SH-60B and the load of fire hoses, OBAs, and P-100s right onto their bridgewing.

Hearing the start of my aborted "clear" call, the H2P started drifting forward to transition to forward flight. Upon seeing all that gray and hearing the last half of my call, he steadied us out and started a slow turn to the left. The crewman called the load steady as we passed between the two ships with no more than a rotor's clearance on either side. I continued calling torque, airspeed, and altitude as he threaded the needle. Once clear and above single-engine airspeed, we breathed a big sigh of relief and actually started to laugh. We dropped the load off on mother and recovered shortly after.

So what would I do differently today? Can you say, "situational awareness?" The entire crew was task-fixated on a steady hover and getting the load hooked up. While I was monitoring the gauges, altitude, and position over the deck, I did not look ahead or left until it was time to be on the go. One quick glance to the left would have given me all the SA I needed. I could also have monitored bridge-to-bridge, instead of Hawklink, which might have clued me in on the Dutch intentions. Why didn't the British HCO warn us? Doesn't matter. You can't depend on others for your own clearance. In any case, we got a very valuable lesson at a cheap price. I'll never again start to call "clear around" until I know for sure that we are. And I'll never again assume an obstacle won't suddenly appear out of nowhere, even in the middle of GOMEX, with the nearest land over 200 nm away. 🦅

LCdr. Nash flies with HSL-42.



ORM Corner is a bi-monthly department.

Please send your questions, comments or recommendations to Mr. John Mahoney, the ORM coordinator at the Naval Safety Center, or to Capt. Denis M. Faherty, Director, Operational Risk Management. Mr. Mahoney's address is: Code 70, Naval Safety Center, 375 A St., Norfolk, VA 23511-4399. DSN 564-3520, ext. 7243. Comm: (757) 444-3520, ext. 7243. E-mail: jgmahone@safecen.navy.mil

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It was late afternoon at a high-elevation Air Force base in the Midwest. We were running a little behind schedule with a plane full of VIPs. The red carpet was out, and the band was playing. We were doing our best to make up the time lost on the front end of the mission. Our speed was restricted to 200 KIAS below 5,000 feet AGL and 7 DME from the airfield. We were also getting the dreaded “slam dunk” descent from ATC. At least we had a choice of runways.

We could land with a crosswind that was at the 21-knot limit, get off at the mid-field taxiway, and park on time. Or, we could land into the wind on the perpendicular runway and taxi two miles back to Base Ops, which would make us late. We took the first option.

I had relatively low time in the C-20, and this was my first line mission. I was out of my comfort zone. On base, I fought hard to descend and slow down. I considered all the ORM stuff that had been pounded into my head for the last year, then I called for full flaps and pressed on. With power at idle and in the landing configuration, I tried to bleed off some of the excess airspeed. I crossed the numbers 20 knots fast, and with a huge ground rush from the higher-than-normal true airspeed (because of the high elevation), I floated down the runway.

As we touched down and the spoilers deployed, the aircraft swerved to the left, weathervaning in the wind. The C-20 is a challenging aircraft in a crosswind and requires a lot of rudder and nosewheel steering to maintain centerline on the rollout. The combination of

higher-than-normal landing speed, high crosswind, and my inexperience in this aircraft put me on a 40-foot drift left of centerline. Curiously, this also happened to be the time when my career flashed before my eyes as I looked at the weeds on the left side of the runway. I considered I would at least blow the nose tires, and it would be a messy ordeal.

My C-20 hung in here, though, and I even managed to get it back to a respectable position on the runway. Having aged about 10 years, I managed to pull into the spot on time. A bonus!

Besides shaky knees and more gray hair, what did I get from this little adventure? The little voice that whispered, “ORM,” was telling me I was violating my comfort zone. I should have listened. We should have gone to the other runway. I could have traded altitude to get back on a normal glide slope, gotten my speed under control, and had the winds down the runway. But, instead, I opted for saving 10 minutes of taxiing. 🛩️

Lt. Freytes flies with VR-1.

The Slam Dunk

by Lt. Bert Freytes

an auto did not even occur to me...until he did. I didn't see him do it this time, I just watched the No. 1 power-turbine speed and turbine-gas temperature drop down. I said, "Looks like number one has low-sided."

"Good catch, simulated failure," he replied.

I said, "Roger," and thought, "Well, I expected this, right? He'll back me up, right? Everyone I talked to said this is no big deal, right?"

As I started flaring at the bottom to 35 degrees, nose up, he realized that I wasn't going to wave off, and he ran the engine back up to give us the extra power we'd need in about two seconds. Rock and pull.


He said, "We're gonna hit!"

I said, "I've got it!" and I did, thanks to the power from the other engine. If he hadn't run the No. 1 back up, we probably would have landed hard and could have broken the aircraft. It turned out to be one of the best autos I have ever done, with zero forward airspeed, and a perfectly level and aligned helicopter at the bottom. Would that have been enough to prevent serious damage, injury or death? Perhaps, but I didn't want to find out, and I'm really glad that we didn't find out then. Even if we had, we would have come down on a pad where landing is prohibited (though hovering is not) because of possible damage to the pad's structure.

After the evaluator finished yelling at me, I explained that we had done this once before, and I had asked him about it afterwards. He remembered, and when I told him that I thought I had done the "wrong" thing in waving off last year (not wrong, just not what he wanted), he told me that I had misunderstood him. After a couple of professional expletives, we both laughed with relief and called it a day.

This misunderstanding could've cost us, and the Navy, a lot, and we had avoided a disaster with a bit of skillful flying on my part and quick reactions on his part. Hard to feel good about it, but I learned a lot that day.

If something happens that has made you cringe, even just a little, never accept anything but a complete and thorough explanation or description. Never allow it in your aircraft until you're completely satisfied with that answer. Even if it is a check flight, you have the right to say, "Hell, no, we're not going to do that!" If you are sure about something, but then are made to feel you know nothing, find out why.

And finally, don't forget operational risk management. All I had to do was bring this up in the NATOPS brief before the flight, and I'm sure it would have been resolved right then and there. 

Lt. Rauchenstein is the squadron weapons-tactics instructor for HSL-51.


vertigo, since we were so low and still so far from the ship's stern.

We recovered quickly, discussed the incident briefly, and got back in the game. The darkness bred disorientation, and the HAC later repaid the favor when I had a healthy case of the leans. Well-established in the air boss's uncomfortable pattern, the HAC repeatedly pleaded for a "more efficient pattern." We asked to take care of one ship at a time to avoid all the problems I just outlined. I recall wanting to further comment about the position of the lone FA-18 parked so that it was almost impossible not to overfly. Every attempt to streamline the pattern was rejected. I thought we should be saying something other than "inefficient," but we didn't.

The night continued with near-misses with the other H-46 from the T-AFS. We pleaded to the tower for better "efficiency." With each pass, we questioned the operation more and more. I wanted to say something else, but I didn't. Meanwhile, the mini-boss kept refining his wishes.

"Sideflare, drop that load ... more right ... you have a fouled load ... retro to the left." This put the radio traffic at an intense level for daytime work, let alone a night like this. The noise added another degree of required "flexibility." Of course, the pilot at the controls, with radio mixer-switches down in order to hear our crewman's calls, was not privy to the tower's suggestions, so it all had to be back-briefed. I sat silently during one refueling, resenting that as an H2P, I had to study all those publications that set the requirements for night vertrep, which detail efficient and safe patterns, warn against excessive radio traffic, quantify the proper ship distances, and delineate discretion for night vertrep. I saw none of it put into practice that night.

We finished the operation that night as if "no" was not in our vocabulary. I was glad it was over. Throughout the mission, I wondered, "Before how many aviation mishaps did the crew feel uncomfortable just like this?" I wondered, yet I never said a thing. I spoke up during the debrief, but by then, it was easy.

In the story, the boy in the midst of crowds, royalty, and pressure had the courage to go against everything taught and say, "The emperor has no clothes." One of us in the aircraft that night should have said the publications are there for a reason. We should have overcome the fear of speaking up against the powers that be. We should have said something other than that this vertrep operation was "inefficient." 

Lt. Amaral flies with HC-11.

A photograph of a pilot in a cockpit, viewed from the side. The pilot is wearing a helmet and looking out the windshield at a cloudy sky. The cockpit instruments and controls are visible in the foreground.

Out-of-Date Follies

by Maj. Geoff Field

At Camp Lejeune, North Carolina, world events in the Balkans made military planners realize that we might have to rapidly place bridge sections across key rivers to ensure mobility. Projects officers from Second Marine Expeditionary Force decided we needed an exercise involving heavy-lift helicopters that would externally transport and place 12,000-pound bridge sections and 9,000-pound bridge boats. As the Ops O of a CH-53E squadron, I saw a terrific opportunity for training.

With planning representatives from the CH-53E squadron, engineer support battalion and landing support battalion, we were all enthusiastic when we first met. We discussed the details of the lift, using a number of reference publications on external-load rigging. Looking at our manual¹, the helicopter support team (HST) leader politely told us we were using an outdated publication. He produced the

current manual². The squadron had not received this publication. According to the manual, the bridge sections and the boats were authorized for single- and dual-point external lifts, with a recommended airspeed of 70 KIAS.

On the rehearsal day, the weather was below VFR minimums. We decided to postpone the lifts until the next day, which brought clear skies but windy conditions at 17 knots gusting to 24. Both pickup zone and landing zone would be oriented into the wind.

After a short wait in the LZ for the bridge sections and boats to be rigged, we reviewed the preflight weight and power calculations. With a call from HST, all teams were ready to lift. The sequence of lifts was for three boats then 12 bridge sections. We hooked up the first boat with ease and then did the engine and external system checks.

After smooth transition to forward flight, and with the load riding steady using the dual-point



Ted Carlson

external system, we achieved 70 KIAS. We had to fly the boat along the New River and then make a 180-degree turn to set up for final. The drop-off zone was actually a water drop zone approximately 500 meters off the shoreline in water 12 to 15 feet deep.


The first and second lifts were uneventful, and we flew back to the pickup zone for the last boat. The wind appeared to be increasing as the third lift progressed, and it was gusting more than it was steady. On this lift, as the CH-53E with its external load began to decrease airspeed from 70 KIAS and turn toward the drop-off zone, the boat shifted left and right more so than on the previous lifts. We continued with our transition and reduction in airspeed.

While in this turn to final, the boat shifted left 30 degrees, then shifted back to center. As it did, a wind gust made the boat ride bow-high, thereby

reducing the weight sensed by the front airframe hook to less than 200 pounds. This activated the CH-53E's no-load safety feature, designed to prevent either the forward or aft airframe hook from carrying any load independent of the other hook. Consequently, both hooks opened and released the boat. The release was a built-in safety feature; it might have saved the aircraft and aircrew from a dangerous situation with the load still attached to one hook and the aircraft out of center-of-gravity limits. The release of the boat could be seen on our FLIR as it fell to the ground from an altitude of 400 feet AGL.

We radioed the incident back to base and were advised to RTB. The CO was concerned with the integrity of the dual-point system on the aircraft. Members of the squadron avionics shop and civilian tech reps checked the system and found it to be fully functional. We researched the flight-test data for the boat's external air-transportation certification. A test pilot noted that "the boat became unstable and began yawing left and right at 70 KIAS" and that the "Maximum airspeed to be flown with the boat be seventy KIAS." Conversely, the recommended airspeed as published in MCRP 4-11.3 and used by the aircrew was 70 KIAS. Obviously, the published recommended airspeed conflicted with flight-test results and the test pilot's recommendations.

Comparing flight-test data with the airspeeds recommended by the pubs, we found the same inconsistency in three other pieces of equipment. The CH-53E squadron initiated a hazrep, highlighting the inconsistencies and deficiencies in MCRP 4-11.3 with distribution to all CH-53 squadrons, landing support battalions, and engineer support battalions. Two weeks later, we did the bridge lift, using airspeeds recommended from flight-test data, rather than the MCRP 4-11.3.

In retrospect, we paid a high price to discover a piece of misinformation. At least no one was hurt. 

Maj. Field flies with HMH-464.

¹Fleet Marine Force Reference Publication (FMFRP) 5-31 (Helicopter External Rigging Procedures).

²Marine Corps Reference Publication (MCRP) 4-11.3 (Multi-service Helicopter External Sling Load, Volumes I-III).

by Lt. Rich Shettler

It was a normal flight, a six-hour random track from Travis AFB to NAS Patuxent River, where we forward-deploy to an alert facility. We were talking to Washington Center, and about 70 miles from the field we received an en-route descent to Patuxent. We got landing weather and called for descent checks.

We finished the approach brief and computed landing data. A commonly flown TACAN approach to runway 32; nothing new, done it a hundred times. Weather was clear and a million, with winds 340 at 12 knots. Another landing into the black hole, as we like to call it. Runway 32 at Pax River has no VASI, and there is only water before the threshold, making short-final look like you're flying inside a black hole.

We configured the aircraft with gear and flaps and called the FAF with the gear. At two miles, we asked if the arresting gear was rigged. Tower replied it was rigged approximately 3,000 feet from the approach threshold. We planned to touch down about 1,500 feet from the threshold and simply roll over the gear.

The aircraft crossed the threshold at 50 feet and the landing lights illuminated the numbers and fixed distance markers. The main gear touched down approximately 1,500 feet from the threshold.

As I flew the nose to the runway, I deployed the speed brakes and pulled the four reverse levers to idle. Suddenly, my normal landing was no longer normal. Looking down the runway, I noticed at first what I thought was a dog about 2,000 feet in front of us. As the nosegear touched down, the landing light illuminated something much bigger than a dog. A deer had decided that an airfield would be a good place to call home. It found itself on the same runway with a monster airplane going 130 mph.

I called across cockpit that we had a deer. I made no attempt to change my ground path and hoped this one had nine lives and could duck the one-foot-ten-inch


clearance of the No. 3 engine before dodging the main gear and flaps.

After passing the large animal, I got on the brakes at approximately 100 knots, slowing the aircraft and scanning the No.3 and No.4 engine instruments. I didn't see any abnormal indications.

We notified tower as we rolled to the end of the runway and exited onto the taxiway. The postflight inspection of the aircraft and runway revealed that this was indeed a deer with another day to live. No evidence of the deer was found. Apparently, Bambi passed between the No.3 and No. 4 engines, missing the trailing-edge flaps.

Lessons learned? We have had this same story before but that buck wasn't quite as lucky as my lady deer. That time, the main gear hit the deer, leaving no significant damage but requiring a hose and a lot of cleaning time. We were lucky that in both cases neither the inboard or outboard engines hit the deer.

The E-6A's CFM-56 engine runs about five million dollars a copy, and I don't believe making a milk shake out of a deer could be a good thing for a high-bypass jet engine.

We've practiced solutions in the past but we sometimes forget. Ask ground crews to make a deer sweep during night landings at Patuxent River. This 10-minute procedure could save hundreds of manhours and thousands of dollars. 

Lt. Shettler flies with VQ-4.

Deer *in the* Landing Lights



Photo-composite by Allan Amen



PH1 James Williams

"Suspend Cat One!"

by Lt. Joe Girard

It was supposed to be a good deal: a day close-air-support mission at the start of our third month of combat operations over Kosovo. I had finished the FRS only a few months earlier and was excited about the prospect of raging around on a combat hop with another JO and coming back to the ship for an OK-3 wire.

After our brief and some quick chow, we manned up and went through the standard pre-launch procedures. I had no idea that a failing hydraulic pump was about to put an end to this good deal. My lead had already launched and was on his way to the KC-135, where we had planned to rendezvous. As I taxied to the cat, I spread my wings, rogered the weight board, and finished my takeoff checklist. Everything looked good with no warnings or cautions. I followed my director's signals, had my weapons armed, and went into tension.

As the engines spooled up, I wiped out the controls and began my habitual sweep of the cockpit, beginning with the hydraulic gauge on my right side. I knew something was not quite right when I noticed the No. 1 hydraulic system reading 2,000 psi instead of the normal 3,000 psi. With no other indications, I briefly entertained the notion that it must be a faulty gauge, and I could still go flying.

Following that split-second of hesitation, I called, "Suspend cat one," and was quickly spun off the cat, telling tower I had a hydraulic problem. Our maintenance people made a valiant attempt to get a new hydraulic-pressure indicator up to the flight deck before the launch was over, but time ran out.

After I endured some good-natured ribbing in the ready room about not going flying because of a bad gauge, maintenance control reported that the gauge had checked good, and the problem was a hydraulic pump that was beginning to fail. If I had launched with this faulty pump, I very likely would have been operating on one hydraulic system soon after launch.

The hydraulic gauge in the FA-18 is the only indicator the pilot has to determine the status of the hydraulic pumps. Some pilots might not check this critical piece of information before a cat shot. Every pilot should review their pre-launch instrument scan, making sure to include all essential items. Had I not noticed the problem with my No. 1 hydraulic system, my good deal could have easily turned into a bad day. 🦅

Lt. Girard flies with VFA-15.

Temptin

Mom and Fa

by Lt. Brian Becker

It started off innocently enough: A good-deal cross-country to complete four radio-instrument flights with one of the squadron's more friendly instructors. More importantly, I had a free ticket home to show off the mighty T-2 Buckeye to my family and friends.

The night before the flight, I planned, packed, and called the boys to let them know I was going to be in town. I had not been home for a long time and was excited to see my family and friends. I awoke early the next day and brought the completed flight plan for my instructor to review. He confirmed its accuracy, but changed the aircraft designation and TD code from T-2/P to T-2/R. I did not think a hand-held GPS warranted the change, but my instructor explained that the advantages of going direct outweighed any fine points of the filing process.

He signed the DD-175, and we brought our flight plan to base ops to get the weather brief. The weather along our route and at our first stop was forecast to be VFR. However, our final destination was reporting ceilings of 500 feet, with decreasing visibility down to 1.5 miles with fog and haze. It was still above field minimums but low enough to cause concern.

The first leg went well (considering I spent most of it under the bag). I navigated the route, shot two good approaches from the back seat, and then relinquished the controls to my instructor for the landing. We shut down and proceeded to base ops to put our second leg on request and re-check the weather.

Weather was now calling our destination to be 350 and 1 with fog and haze, below the TACAN minimums of 400 and 1 1/2. It was beginning to look like Mother Nature might put a damper on our plans. We discussed our options and decided to try getting into the field, hopeful the earlier forecast we had received would somehow magically reappear. We were only 120 nm from our destination and had plenty of gas to turn around and head back if we could not make it into the field.

The conditions above 3,000 feet were great. The low layer of clouds was well beneath us as we made our journey across Lake Michigan. Metro was still calling our destination's weather at 300 and 1, below the TACAN minimums. Our destination did, however, have a GPS approach with minimums of 300 and 3/4.

The instructor briefed our plan over the ICS. I would fly off his commands as he read the navigation information from the hand-held GPS. He requested the GPS-Runway-19 approach, and we were on our way.

We started the approach well above the clouds, but by 2,700 feet, we were in the goo. My instructor gave me minor heading changes as we continued down, passing the TACAN minimums of 400 feet without seeing the runway.

"Keep it coming," he said as we passed 350 feet. I leveled off at 300 feet, and he told me to bring it down a little more. We broke out at 275 feet but were offset to the right of the runway by about 3,000 feet with no chance to land.

ng te



“I got it,” he called as he took the controls, switched tower and requested special VFR. We circled over the runway in a left turn, dodging the clouds at 250 to 275 feet and set up for another try. Unfortunately, he overshot on the second attempt, and again we circled the runway in a left turn. I did not think we were ever going to land. It was uncomfortable going in and out of clouds at 250 feet above the ground, but we saw the runway and figured we had come this far and might as well land.

On the third attempt, we landed and rolled out without incident. It was about the 3-board when the excitement ended and a little fear entered my mind. About that same time, I heard, “Don’t ever let me hear of you doing this,” on the ICS.

“Yes sir,” I responded. We parked, got our stories straight, and greeted our families, who were waiting for us. After a great weekend, we met back at the jet and made our way home without any problems.

Upon our return to NAS Meridian, we had a quick debrief. We were both tired and decided to talk about the flight on Monday. Given some time to contemplate our journey, I thought about get-home-itis and how I let my desire to get home, coupled with my junior status in the flight, get me into a dangerous situation. I could have easily spoken up and voiced my concern, but I didn’t. We had a lot to talk about on Monday.

Monday came, and we fully debriefed the flight. We talked about the approaches and basic airwork but mainly focused on our decision to press the weather. We came to the conclusion that if either one of us would have spoken up, things

would have been a lot different. A little voice of common sense was all we would have needed to avert this possible disaster.

It’s been three years since that flight, and I am just now fully grasping the gravity of the situation. Experience has shown me firsthand the effects of pushing marginal weather. When I think back to that June day, I kick myself for not taking charge and allowing someone else’s experience, coupled with my desire to get home, convince me we were doing the right thing. These days, I use the principles of aircrew-coordination training and constantly scrutinize both my decisions and those of my lead. I was lucky once. I don’t want to tempt fate and Mother Nature again.

Lt. Becker flies with VFA-15.

Hand-held GPS systems, while a great aid to navigation, are not authorized to use as a primary navaid. General Planning 4-2 DD Form 175, Military Flight Plan, Item 3 explains TD codes and aircraft requirements. CNO Message 042032ZAPR00, GPS Policy for Naval Aviation, establishes guidelines for GPS use in the en-route and terminal phases of flight.

Unless your aircraft has an integrated system, approved by N-88, with integrity-monitoring (failure protection), you are only authorized to use GPS for practice approaches in VMC. CNO-approved, commercial-receiver integrations are certified for supplemental use only. This includes DoD-approved non-precision approaches to IMC.—Ed. 🦅

How'd We Do Dat

by Cdr. Frank Coyle

That was close. Too close. How did I land below NATOPS minimum fuel limits, and on a training flight flying with the NATOPS officer? Let's go back a few months...

I was having a great department-head tour with HC-5. Three detachments, seven countries, four oceans, numerous liberty ports, and hundreds of flight hours later, I finally returned to Guam. After some leave, I relieved the Ops O. Yes, this department-head gig was a wonderful thing, and there was more. The prospective XO was going to be late in arriving, and with the change of command, we'd be without an XO for about six weeks! Who was the senior department head? Acting XO? The good deals just kept on coming.

I was in my last month of my tour. I had orders, and was already thinking about leaving this tropical paradise and returning stateside. Skeds came in the office one day and asked, "Sir, wanna fly a night doppler requel?"

"Roger that, sign me up."

The flight went fine. Pick a location, drop a smoke, do the pre-approach checklist, and shoot enough night,

coupled-hover approaches to qualify myself, the NATOPS officer, and the aircrewmembers for another 30 days. Piece of cake.

We finished slightly ahead of schedule, and, it being a beautiful night, decided to shoot an instrument approach into homeplate for proficiency. We figured there was enough gas for one approach. Hey, we were senior, fleet-experienced aviators, under positive control, and the conditions were CAVU. Besides, I'd flown this approach dozens of times.

The IAF for the TACAN RWY 6 approach into Andersen AFB is 12 DME over the water. Since we were close in to the field after the doppler approaches, we needed to transit outbound. Standard approach airspeed for a helo is 90 KIAS. On this approach, it's common to bump airspeed to 120 to save time. We received the standard ATC instructions, and began flying to the IAF. En route, one of us thought it would be a good idea to radio the Coast Guard and let them know we left a smoke burning offshore. I was flying, and the NATOPS officer was calling the Coasties.

The Coast Guard didn't answer, so I decided it would be a good idea to help with the radios. Now, both our heads were inside the cockpit. Enter poor crew coordination.

The HH-46D has two ARC-182 UHF/VHF radios. Typically, one radio will have squadron common selected, and the other will have the active frequency for the flight. They aren't complicated, but every so often, someone figures out a way to get the faulty transmission award. In our zeal to report the smoke to the Coast Guard, we switched off the ATC frequency. Don't ask how we did it, but we did, and neither of us noticed that mistake.

Usually, the Guam controllers call the turn inbound for this approach. We didn't think it too odd that the IAF came and went without a call from ATC, so outbound we continued to fly. Maybe the controllers had something else occupying them. They'd get to us in due time. We chatted about the beautiful weather, my next duty station, how good the NATOPS job is, and anything and everything but the task at hand.

After several minutes, I noted how quiet the radio calls had become, especially since we could see the commercial traffic arriving and departing Guam International. I'm not sure when, but at some point, we both looked at the gauges and realized we were well beyond the IAF and had burned more gas than we wanted.

Our first reaction was, "How'd we do dat?" Our second was an immediate turn inbound, followed by a radio call to ATC. It was during the radio call we realized we had been off frequency for several minutes. After getting back up with ATC and confessing our sins, we focused our attention on fuel remaining. I knew it would be close. We'd make the field, but not without pushing the NATOPS limits. For the H-46, thou shall not land with less than 200 pounds per side. Another issue was airspeed. Max range or max endurance? Flying at 145 (VnE) would get us there faster, but would burn more gas. Flying at 70 KIAS (single-engine airspeed) would save a lot of gas, but would take longer. We decided to maintain 120 KIAS (max range)—in retrospect, a smart decision.

We could see Andersen in the distance. It is terribly frustrating to see an airfield and be powerless to get there more quickly, especially when running low on gas. We discussed a PEL short of the field, but discarded that option. I knew the engines would continue to run with less than 200 pounds per side, as long as we maintained a level attitude. Good fortune was with us as we went feet dry and landed uneventfully at the field. The fuel gauges indicated between 180 and 190 pounds per side as we cleared the active runway.

After shutting down, we debriefed, shook our heads and told ourselves we had learned a valuable lesson. In retrospect, I could have stopped the chain of events sooner; by saying no to that last approach, avoiding the chit-chat during the outbound leg, or questioning the radio silence sooner. Too much assuming and too little questioning contributed to our predicament. 🦅

Cdr. Coyle is now the aviation safety officer for COMNAVSURFLANT.



Lost in a Hornet?

Impossible

by Lt. Curtis Carroll

I was aboard the USS *Theodore Roosevelt* (CVN71) for JTFEX, the final workup cycle before deployment. It was a standard 4 V X self-escort strike into Townsend. The weather was not that great, and we correctly assumed the “X” would equal zero. Even though the lead section was from our sister squadron, briefs had reached the “It’s SOP, any questions?” level after months and months of work-ups.


I, of course, had no questions, and being Dash 3 of the 4-plane, I was concerned primarily with the admin of getting into the Townsend Range should the lead go down.

As I walked to my jet, the weather had deteriorated to a Case II launch, but from the brief, we expected that. It was late enough in the day that we knew it would be a Case III recovery, so as always, I was thinking about the night trap as I preflighted the jet. The startup was uneventful,

except for a “radar degd.” I taxied first and set up behind the E-2C on cat 2. At launch time, when the E-2C went down, my only thought was, “Oh, well, there goes the control for the night.” From the brief, I didn’t think we would need it, anyway.

As I went into tension, I heard the flight check in and get an alpha check on comm 2. I was too busy to read the range and bearing to bullseye as the holdback broke and off I went.

Launching first has advantages and disadvantages. The obvious disadvantage is fuel. The later you launch, the more play-gas you have. On the other hand, as the first one off, you don’t have to worry about the rendezvous because you set the circle and everyone joins on you. Let’s make that mindset-mistake number 1. I checked in with Strike and was cleared, “sweet, sweet.” With the E-2C down, there was no one else to check in with, so I did the standard combat checks, got

A photograph of a person in a yellow flight suit and helmet, kneeling on a runway, looking towards a large aircraft in the background. The person is wearing a yellow flight suit with reflective stripes and a helmet with orange and green accents. The aircraft in the background is a large, white, multi-engine plane, possibly a transport or cargo aircraft, with a high-wing configuration. The scene is set on a runway or airfield under a clear sky.

PH3 Timothy C. Ward

some gas overhead (in the goo, always fun), and proceeded to the rendezvous circle.

On my way to cap, my wingman told me on comm 2 that he would be down and not to expect him. I thought, "I wish I had known before I tanked, so I could have taken his gas." (Nice lead, huh?) Anyway, I finally popped up through the weather around 15K and set myself up for the rendezvous.

Several items caught my attention while I waited for others to join on me. First, I had no A/A TACAN. I double-checked my kneeboard card to make sure the switchology was correct. I figured it was probably a late launch and no one was up yet as I started dealing with the radar. With a bunch of "C's" on the display, I checked the winds-aloft page and noticed a staggering 280 degrees at 110 knots. I figured a quick step to "wide" should handle some of those as I started concentrating on

setting the correct rendezvous circle with such heinous winds. While this was going on, I decided to switch up the ship's TACAN just to see where I was in relation to the marshal stack.

When all I received was a spinning needle, something should have rung out loudly, but it didn't. I figured I was out of range, and I would get a lock when I got closer to the ship. Plus, I had waypoint zero, and the brief said the ship would be mod-locked. Convincing myself that nothing was wrong would be mindset-mistake number 2.

So, with nothing else to do, I double-checked the route and TOT on the HSI, and quietly waited on cap for everyone to find and join on me. As it started getting close to push time, I began to worry.

Just about the time I threw out, "Check yardstick" on comm 2, the flight lead asked, "Chevy Three, where are you?" Similar to the feeling you get when a flight instructor asks you what are you doing, my head exploded while I tried to figure that one out. I coolly replied, "Zero-Nine-Zero for eight miles from CAP," and hoped that would be the end of it. Unfortunately, that was just the beginning.

Lead's reply was dreadful: "No, you're not."

After some additional comm and a check of the CAP lat-long, it was push time, and off they went. Having never joined, and with no A/A TACAN, one would probably knock it off and start figuring out where they were. Not me. I pushed as a single, one minute late. I figured I would get radar on them in front of me and could join them on the route. Plus, I was a section lead, could bomb as a single, and wanted to see Townsend. With no OPFOR, this was only an admin drill, and I certainly had the I-can-hack-it attitude.

Go ahead, say it with me: mindset mistake number 3. Even though I had been at mil the entire route, I never joined or found the lead section on radar. I heard both aircraft in the lead section call tally target and seconds later, "Miller Time," and all I saw was a blanket of white clouds beneath me. This was not good. Not only had I been traveling toward a violation, I had been doing it as fast as I could. When I heard the "Miller Time," I was officially worried.

After several mindset-mistakes leading me into this box, I did what any common-sense aviator would do: I made a hard 180, and decided it was time to get back to the ship. I quickly checked in with Strike, admitting I did not have a TACAN.

Strike gave me what turned out to be a very bad piece of information.

"Four Oh Four, radar contact, three one zero for forty-five. Switch marshal. No joy, pogo." Ironically, it matched close enough to waypoint zero that I put the reciprocal on the nose and started flying home. I think you know by now that I was not headed toward the ship, but farther away from it.

Next, I told marshal about my plight and said I was unable to marshal because I had no TACAN. And that was the final straw. Marshal could not hear me, and I could not hear marshal. I was in the box every aviator warns not to get into. And to top it off, that box was closing at a pace equal to the setting of the sun. I switched back to Strike, and would you believe it, they did not have me on radar anymore.

As everyone got involved, I started a premature climb out of the box when the lead aircraft of our division started for my position. I thought that was a great idea. He would find me, get me beneath the cloud deck on a section approach, and I could still make dinner. Deciding to stay below 18K for fear of a violation, all comms were now being relayed through lead to the ship.

I was told to check aircraft position on the HSI, then to turn left turn, then right, drive straight and level, but nothing was working. Unfortunately, none of the actions we had taken produced the "radar contact" I so desperately wanted to hear. And when Strike told the lead aircraft to contact marshal, it was time for him to recover. Being a good SERE graduate, I promptly climbed back into my box.

Analyzing my situation, I came up with the following points. I did not have comms with anybody, my TACAN was not working, I did not have any faith in my INS (don't forget the "radar degd"), it was getting dark, and fuel was finally becoming an issue. There was only one thing left to do. I squawked 7700, started a bingo profile headed 270, and continually switched up all the East Coast TACANs in my divert pack. Surely I would be able to find a divert. Also, I was happy to remember the lead section saw land on their bombing run, meaning the weather was only over the Atlantic Ocean.

Climbing through FL 240 on what I thought at the time was a 270 heading, I heard, "Aircraft Four Oh Four, Bear." It was our E-2C controller. Apparently, the next event was airborne, and most

importantly, so was its Hawkeye. A couple of IFF flashes later and I heard, “Radar contact, one hundred and sixty nautical miles south of mom.” And though I did not want to hear the rest, it came as no surprise to me. “Your signal divert, three four zero degrees for one hundred and ninety-five nautical miles.”

While on the bingo profile at 40K, I had some time to think. Still flying off the compass in the HUD, it took a couple of heading calls from the E-2C to correct to a direct course to Cherry Point. After the third call, the light bulb clicked on, and I finally started flying off the wet compass. A com-



Capt. J. Leenhouts

parison of the wet compass to the HUD showed a 40-degree difference. So, initially after checking in with Strike and putting a 130-degree heading on the nose, I was actually headed 170 degrees. Well, that explains me ending up so far south of mother. The rest of the profile went as advertised, the coast was

CAVU, and I was ecstatic to receive Cherry Point’s TACAN approximately 16 nm from the field. I had the field in sight and landed with just under 2K of gas (not a fun place to be in a Hornet, particularly at night). Once on deck and in the T-line, I checked the approach plate’s airport diagram, typed in the lat-long, and updated my system. The INS drift was 329/147.5 nm. Those numbers tell the final story.

Obviously, my ship alignment was bad. I rejected the update, ran a ground alignment, got a full bag of gas, called the ship, and asked for my overhead time (you have to at least make an effort, right?). The ship decided not to take me back, and I ended up with a night on the beach to think about the events that got me there.

The next morning, after a 20-minute Hollywood shower, I called the ship, got the exact PIM, and headed out into a blanket of undercast again. This time, however, my HUD matched my wet compass, I had the TACAN on deck, but certainly was not confident in it and had a full bag of gas. My mission: find the ship.

I checked in with Giant Killer and reported, “Sweet lock—no, not really—sweet comm,” and switched to Strike. They assured me I was radar contact and passed me off to marshal. I had plenty of time and fuel, so I drove straight at waypoint zero, and approximately 15 miles from the ship, I received the TACAN. Complaining to marshal about my weak TACAN, they offered radar vectors. I followed the vectors closely, adjusted gross weight, and recovered aboard the ship.

This would not be a complete *Approach* article without some lessons learned. First, even if you are the first one launched, if no one is joining on you, chances are you are not in the right place. This was not EMCON, and even if it was, there comes a time to ‘fess up and find a wingman.

Second, if there is no organic controlling agency with radar contact and you feel lost, switch to a civilian agency and get help. This is a luxury we have during work-ups that may not be available in other parts of the world.

Finally, the biggest lesson I learned was this: do not let your I-can-hack-it-myself attitude outweigh the safe thing to do. In my case, it was simply to ask for help. In a single-seat cockpit, it may save your life. 🦅

Lt. Carroll flies with VMFAT-101.

A US Navy LAMPS helicopter is shown on a ship's deck at night. The helicopter is illuminated by deck lights, and its rotors are visible. The background is dark, suggesting a nighttime setting. The helicopter has the number '424' visible on its side.

JO2 CRAIG P. STRAWSER

What I Learned

During the First Three Weeks of Deployment

Ltjg. Kit Brown

Ship's company hear a lot about helo hazards during the first week of workups, but helo detts must continually review and instruct in order to avoid mishaps. Furthermore, everyone on the flight deck must learn to watch for potential threats.

During the first three weeks of the deployment, members of our LAMPS helicopter detachment and ship's flight-deck personnel witnessed a handful of serious near-mishaps.

FOD is a chronic problem for ships and airports. Pilots, aircrew, and flight-deck personnel know the damage a paint chip or pebble can

cause. While the flight deck is scrutinized for FOD before flight ops, many of the ship's other decks below the level of the flight deck don't get the same attention. These lower decks, mainly used by members of ship's company who are not associated with flight operations, contribute plenty of flying debris when they are swept by the downwash of a helicopter rotor. Paint chips from aging ships are a constant problem that no one person can control, but ball caps and soda cans usually have owners who should be responsible for keeping track of them when flight

operations start. Yet detachment pilots have seen them, along with plastic bags, can lids and expended CIWS casings barely miss engine intakes and the rotor blades while hovering around the flight deck. The problem: trash cans left unsecured and areas around unrep fueling stations not policed and littered with rags.

Many publications, particularly *NWP 3-04.1*, describe ship handling during helicopter flight operations, outlining when the ship may maneuver, based on the actions and needs of the helicopter. This publication says repeatedly that once the ship grants permission to the helo pilots to shut down and stop the rotor blades, the ship must not maneuver. On three occasions, however, our helicopter detachment had to stop an approved procedure because the ship started maneuvering. At one point, the pilots had to reengage the rotor blades to keep the blades from flapping, which could have damaged the rotor head and endangered the flight deck crew. In this case, several factors came into play, notably the bridge's failure to coordinate with the LSO prior to turning. Furthermore, the ship was trying to stay in formation with other ships and had to hastily correct its heading. The LSO didn't see the ship turning, because it was nighttime and the directional gyro lights in the Landing Control Station were burnt out, which made the gauge hard to use for quick reference.

To prevent such a perilous situation in the future, the helicopter detachment must ensure that all personnel qualified to control the ship's maneuvering are familiar with the guidelines in *NWP 3-04.1*. The LSO must know the ship's intentions and pay attention to its direction and speed, in case the OOD and conning officer forget the helicopter.


Finally, the landing signalman enlisted (LSE) is extremely important once the helicopter has landed. With so much activity on the flight deck, the LSE must know the location of everyone on the flight deck as well as the pilots' intentions. He must keep an eye on the helicopter, monitoring the installing or removal of chocks and tiedown chains.

Flight-deck directors must remember to react only to a helicopter pilot's request, consent, or acknowledgment. In one case, our helicopter was on deck after completing the first of two landings, when, to the pilot's amazement, the flight director came onto the flight deck and instructed the personnel to install the chocks and chains, without a signal from the pilots. Because this event occurred at night, neither pilot could get the attention of the flight-deck director or deck personnel. Someone could have been killed if the pilots hadn't seen people on the deck and had tried to lift off.

The flight-deck director was new, with little experience. He hadn't trained during week one of workups. Flight-deck directors must pay attention to the directions from pilots, and that takes training. This flight-deck director didn't understand the pilot's intentions, or he wouldn't have run out on the deck and started to chock and chain the aircraft. LSOs must ensure flight-deck directors

Someone could have been killed if the pilots hadn't seen people on the deck and had tried to lift off.

are made aware of the helicopter's intentions during each approach. If flight-deck directors aren't sure what the helicopter is going to do, they should ask.

We dodged the bullet in all of the cases described, but each one could have been disastrous. There are far too many perils associated with shipboard flight ops to be distracted by the unnecessary hazards caused by untrained or poorly trained personnel. 

Ltjg. Brown flies with HSL-42.



Where's the Challenge?

Starting an aircraft just didn't seem that hard...

by LtCol. Peyton DeHart

“Checklists are a crutch,” I heard when I first started flying. The seasoned fleet pilots thought checklists weren’t cool. You don’t need a checklist to start a car. Starting an aircraft just didn’t seem that hard, but I eventually concluded that each flight would contain enough mistakes without my piling on the errors of leaving something on or off that was supposed to be off or on.

“Challenge and response” was usually mandatory, but reading aloud to myself, especially when on a ground turn or test hop, felt better. The rhythm made it easier to detect the false note of unusual occurrence. In Cobras, each seat had a copy of the checklist somewhere. Not so in the C-12. For some reason, the community standard is that the rightseater jealously guards the one copy of the checklist in the cockpit. The leftseater doesn’t touch it. This is supposed to reinforce the concept of challenge-and-response.

After a month of flying the UC-12B, I found myself on the second leg of a cross-country. That wintry day, the freezing level was low and the overcast thick. We had descended through the clouds to make the fuel stop at the FBO, picking up some light rime ice on the way down.



Twenty minutes later, with a full tank of gas, we did the start checklist. We'd been through the items once already that day, so they sounded familiar. After a long string of words, we finally got to the lineup checks, which are the last things before going down the runway.

The right-seat guy, who had the checklist, concluded, "... and you'll get the Hot Five and lights while I get..." The "challenge" part of the drill was trying to remember all the stuff I was supposed to do in the new-to-me cockpit and remember what he said. I finished by setting the lights to the correct position and announcing that fact.

Power levers pushed to maximum torque, we accelerated down the runway, pulled the nose up, raised the gear, hit IFR at 1,000 feet, and again noted the light rime ice attaching itself to the leading edge of the wing. At 10,000 feet, the NATOPS climb speed changes from 155 to 135 knots. There, I raised the nose and saw the airspeed fall off as it should. But it didn't stop falling at 135 knots; it kept winding down. I checked engines. They were good. The airspeed gauge kept unwinding. Nose attitude looked correct, but we were actual IFR. What if the

attitude gyro had failed? Airspeed is a backup pitch indicator.

I started pushing the nose down, but the airspeed didn't come back. Nose down some more...

At this point, the situation distracted the pilot in command from his coffee. He glanced at the instrument panel, looked around, yelled, "Yipes!" and quickly reached under my yoke to turn the pitot heat on. Pitot heat is part of the Hot Five, part of every experienced C-12 pilot's habit pattern and an item on which I had been challenged. But there I was, in the klag, suffering the loss of my airspeed indicator because my pitot tube was rapidly icing its way completely closed. All because I hadn't responded correctly, and the checklist reader didn't recognize that I hadn't.

What's the fastest way to gain airspeed in a non-afterburner-equipped aircraft? Melt the ice in the pitot tube. We gained 50 knots in a second.

LtCol. DeHart flies with the 4th Marine Aircraft Wing.

Both Navy C-12 FRSs operate with two sets of normal and emergency checklists in the cockpit, which are available to both pilots. The UC-12B NATOPS chapter on crew coordination directs that the pilot flying (PF) is responsible for calling for checklists and that the pilot not flying (PNF) read the checklists. All checklists are challenge-and-reply.

NATOPS Section 29.1.1 also says that doing the checklist "is a disciplined procedure requiring that pilots know their aircraft and that they accomplish its configuration methodically..." NATOPS also says that the PF should initiate the check and that the PNF should read each item aloud with the appropriate pilot doing the action and responding as he completes it.—LCdr. Mike Rogers, NSC UC-12 analyst. 🦅

Three Clear-Deck Landings in One

by Lt. John Bushey

“**F**light quarters, flight quarters! All hands man your flight-quarters stations.” My pulse quickened as I made final preparations for the upcoming recovery, hot-pump, crew swap, and relaunch of Hellfire 16, our det’s SH-60B.

It was my fourth flight as HAC. My crew consisted of a junior pilot qualified in model (PQM) and our detachment’s junior aircrewman. We had briefed an hour-and-a-half earlier in CIC. The mission that night was surface surveillance (SSC) and mission-training quals. We were supposed to proceed down PIM and evaluate all contacts.

Our preflight brief concluded with an aircrew brief, review of the aircraft ADB, and completion of the operational risk management (ORM) form. A weather brief was not available, but PIREPS indicated 500-foot ceilings and one-mile visibility—minimums for shipboard ops. Our ORM number was high.

Finishing my walk-around, I strapped into the seat and keyed the ICS, “How’s it going?”

Our OinC (the off-going HAC), replied, “Great. The aircraft’s flying well, no problems. Our fuel burn was averaging around 840 pounds per hour.” After getting the lowdown on the aircraft and the tactical update, we completed the turnover and prepared for launch.





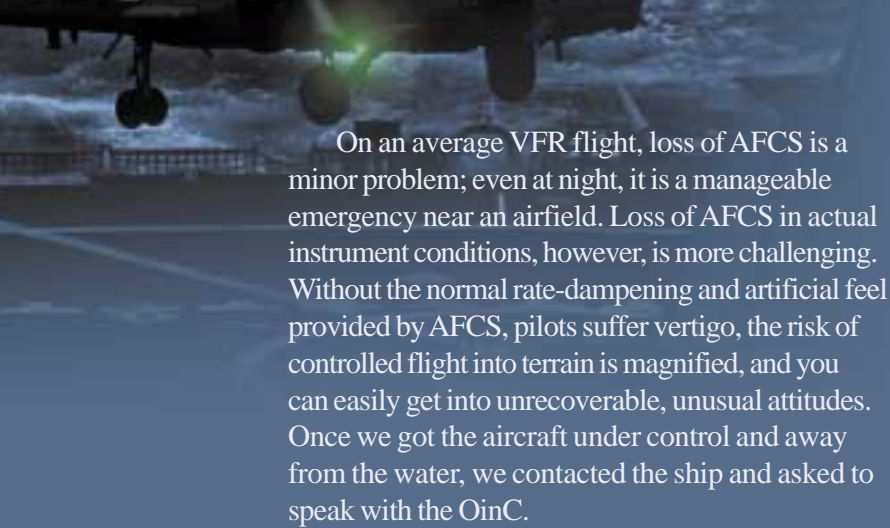
We made an instrument takeoff into the velvet-black night with six-foot seas gently rocking home plate's flight deck. We established Hawklink and proceeded toward our computer-generated fly-to point, 64 miles ahead of PIM. My copilot, tonight flying as airborne tactical officer (ATO), and sensor operator (SO) began routine radar, ESM and FLIR searches. As the squadron's newest aircraft, and one modified with a rapid-deployment kit, "Sweet" 16 had a reputation as the smoothest helo we had. Tonight, it was flying exactly as advertised.

The flight quickly developed into the normal bore-ex of routine SSC. Suddenly, the master-caution light illuminated. I glanced at the caution-advisory panel and saw the AFCS-Degraded and SAS cubes glaring brightly. This time, though, the AFCS-Degraded light was different; the light didn't blink.

The steady AFCS-Degraded caution light indicated a complete power interruption to the automatic flight-control system (AFCS) computer. I scanned the AFCS control panel to find that the SAS1, SAS2, trim, autopilot, and computer power push-button switches no longer were on. At the same time, the controls had become as fluid as a mop in a bucket of water. All trim, dampening, attitude retention and altitude hold—the "magic" provided by AFCS—were gone. We were 50 miles from the boat in IMC at night, with more than 3,000 pounds of hydraulic pressure moving the control surfaces in response to every input. To say the aircraft was squirrely would be an understatement.

We immediately pulled power to get away from the water. The ATO broke out his pocket checklist and reviewed the procedures. We tried recycling computer power and checked circuit breakers, all without success. The SO had grabbed the aircraft NATOPS and was reviewing it for any other possible actions to get the computer back online. He read the AFCS failure matrix and confirmed that the steady AFCS-Degraded light indicated a total loss of power to the computer.

I handed controls over to the ATO and took the checklist to review the emergency procedures myself. Nothing in it or NATOPS worked; we were stuck.



On an average VFR flight, loss of AFCS is a minor problem; even at night, it is a manageable emergency near an airfield. Loss of AFCS in actual instrument conditions, however, is more challenging. Without the normal rate-dampening and artificial feel provided by AFCS, pilots suffer vertigo, the risk of controlled flight into terrain is magnified, and you can easily get into unrecoverable, unusual attitudes. Once we got the aircraft under control and away from the water, we contacted the ship and asked to speak with the OinC.

We briefed him on the AFCS failure and our troubleshooting. He offered several other

avenues to explore, but none of them worked. We were out of range of an alternate landing site ashore and the comfortable, big flight deck of an aircraft carrier. Our

only remaining option was to bring the aircraft back to the ship. With that, I declared an emergency, and the boss immediately set about coordinating our landing requirements with the ship.

As we tried reversing course and returning home, we got our first indications of how hard the remainder of the flight would be. As we began our turn, an unusual attitude immediately developed. Right wing down and shifting of the lift vector resulted in a descent, the ball went out and airspeed increased. Pulling power to arrest the descent sent the ball out the opposite direction and caused airspeed to decrease.

Seeing the result of our first turn, we quickly re-briefed the emergency and everyone's duties. Any time a new heading, altitude or airspeed was selected, all crew members monitored the aircraft's progress. The SO monitored the radar altimeter and airspeed displayed on the navigation parameters table of the tactical computer, immediately reporting any deviations from our briefed flight attitude.

The pilots swapped controls whenever fatigue set in. One monitored instruments, backed up the flying pilot, did all checklists, and responded to radio calls. The tactical screen was selected on the ATO's multipurpose display to assist in navigational orientation. Maximum crew coordi-

nation became the critical factor that would bring us home.

As we plodded toward the ship, pilot fatigue became evident. Maintaining wings straight and level, altitude and airspeed was hard. Turns or changes in altitude and airspeed bordered on unusual attitude recoveries. We were not looking forward to landing our testy helo on a small flight deck just 33 feet above the water. Thank goodness we weren't landing on a frigate!

As we approached the ship, we decided to descend from 1,000 feet to 500 feet. The ship was now 10 miles away. As the pilot lowered collective, the ball went out again. When we leveled off at 500 feet, we realized we had turned off the ship's base-recovery course. We tried turning back to the ship, but stopped after the pilot at the controls began to chase altitude. We decided to fly straight and level for a while and repositioned for another approach.

The OinC had coordinated the recovery to give us the most stable deck possible, with winds from port. We completed the landing checklist, then briefed our approach and landing. We decided to try the alternate approach beginning two miles astern at 200 feet. The advantage of this approach was that it required minimal altitude and airspeed changes, compared to the standard LAMPS step-down approach beginning 1.2 miles astern at 400 feet.

We also requested a clear-deck recovery, instead of a free-deck landing to reduce the amount of time we would be hovering over the flight deck, as crew fatigue was rapidly becoming a critical factor.

About five miles out, we descended to 200 feet. We began the approach. My copilot had been flying up to this point and was tired. We decided to swap controls. Just before the change, we again reviewed crew responsibilities and the importance of everyone scanning their instruments. We hit two miles and began the approach with a gradual descent to 100 feet. At about one mile, we leveled off and slowed to 50 knots. My copilot and SO were backing me up on headings and altitude, as well as closure to the ship.

Just inside a mile, the ship began to break out of the black night. At a quarter mile, we were able to begin picking out the individual landing aids and the SGSI. We stayed at 100 feet and slowed to

Our only references
were dimly illuminated
gray bulkheads and
greenish-blue alignment

about 20 knots of closure. Now with an external orientation, everyone on board realized how much the nose was dancing left and right, up and down as we moved the flight controls.

I called that we were about 500 yards astern to the SO. He rogered and continued with his altitude and closure calls.

As we crossed the cruiser's gun and missile decks, I slowed the aircraft to a crawl. I did not want to charge over the flight deck and have to make a large control input, only to lose sight of the deck.

"You've got the deck made," my copilot called. I crept forward a little more to get the aircraft in the landing circle. We were now visual; our only references were dimly illuminated gray bulkheads and greenish-blue alignment lines. I was quickly scanning the line-up lines and the butt lines for orientation as my copilot and SO assisted with lineup calls. The ship appeared to pitch and roll at an incredible rate as I fought to align the aircraft over the tiny flight deck.

The horizontal reference bar mounted above the hangar door was of little assistance once we descended over the landing area.

The ATO and SO continued their lineup calls, "Forward three. Right two. Forward half."

I finally found the correct lineup and set the aircraft down. I looked over and saw that my copilot had ridden the controls for the landing. The Homer Simpson "woo hoos" of exuberance broke out in the cockpit as the mechs applied chocks and chains.

After shutdown, our flight crew debriefed the flight over a cup of cappuccino in the wardroom. We were tired and wired at the same time from the adrenaline rush of the flight and caffeine. Every member of the crew flew the aircraft that night. Good crew coordination had brought us home. The NAVFLIR for that flight reflects one landing for each of the three crew members. 🦅

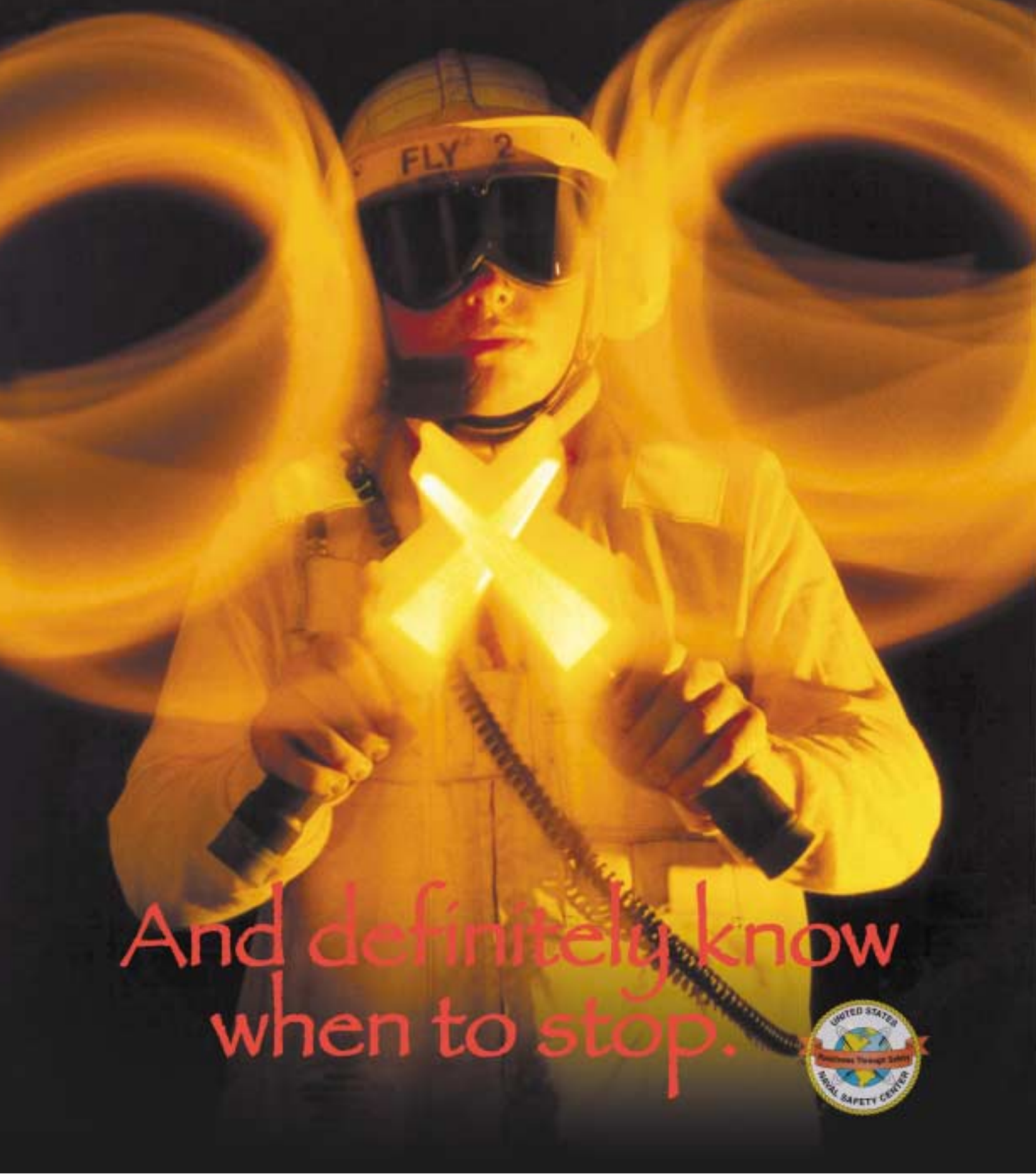
Lt. Bushey flies with HSL-51's Det 2.

On Cat 1

Coming Attractions for August

- 
- Suspicion Becomes Reality
 - Roll Out the Barrel, We'll Have a Barrel of...Yikes!
 - One Engine, One Radio, Plenty of Bombs

Know when to go.



And definitely know when to stop.

